CORRECTED VERSION

(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 2 December 2004 (02.12.2004)

PCT

(10) International Publication Number WO 2004/103828 A3

- (51) International Patent Classification⁷: B29D 22/00, 23/00, B32B 1/08, C08J 9/00, B29C 65/00
- (21) International Application Number:

PCT/US2004/015304

- (22) International Filing Date: 14 May 2004 (14.05.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/471,477

17 May 2003 (17.05.2003) US

- (71) Applicant (for all designated States except US): MICRO-GREEN POLYMERS, INC. [US/US]; 8316 272nd Street N.W., Stanwood, WA 98292 (US).
- (71) Applicants and
- (72) Inventors: BRANCH, Gregory, L. [US/US]; 8316 272nd Street N.W., Stanwood, WA 98292 (US). GUNTER, Wiley, D., III [US/US]; 1126 Chestnut Hill Drive, Erie, PA 16509 (US).
- (74) Agent: CLAIBORNE, Anthony; Claiborne Patent Law Services, 849 136th Ave. N.E., Bellevue, WA 98005 (US).

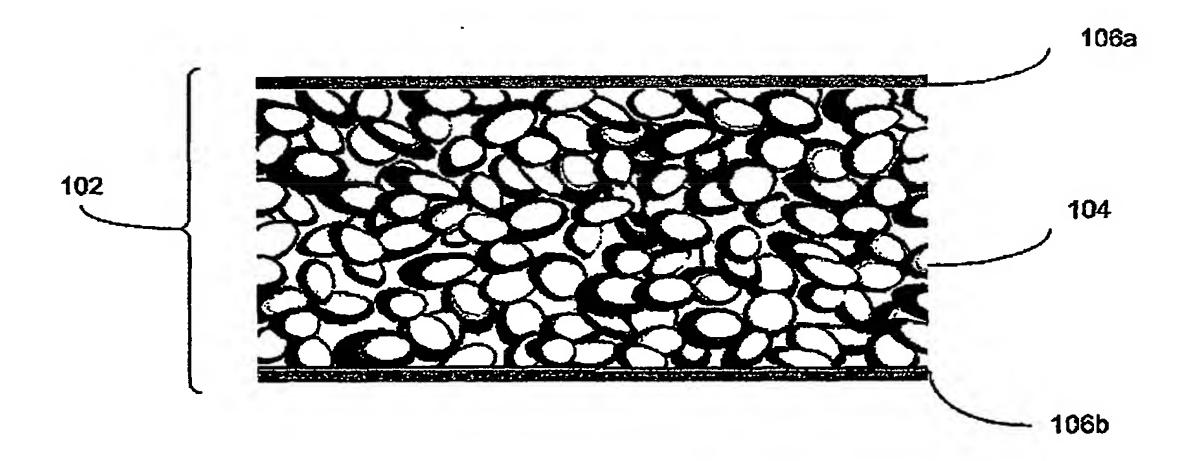
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to the identity of the inventor (Rule 4.17(i)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE,

[Continued on next page]

(54) Title: FOAMED PET PACKAGING



(57) Abstract: This invention provides packages and containers produced by a solid state method for the manufacture of foamed polymeric material. The packages are suitable for pre-cooking or sterilization, insulated transport, cooking vessel, reheating, and storage of food. The gas impregnated thermoforming (GIT) process includes interleaving an article of raw polymeric material with a gas channeling means; exposing the article to a non-reacting gas at elevated pressure to achieve a desired concentration of gas within the polymer, thereby forming a partially gas-saturated article, separating it from the gas channeling means, then decompressing, foaming and forming it at a temperature below the material's melt temperature; and finally trimming it to produce a finished foamed polymeric material and recycleable scrap solid state process foamed polymer.

4/103828

DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE,

BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

— of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report
- (88) Date of publication of the international search report: 10 March 2005
- (48) Date of publication of this corrected version: 28 April 2005
- (15) Information about Correction:
 see PCT Gazette No. 17/2005 of 28 April 2005, Section Π

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.